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TRANSLATIONS.

*The Intimate Structure of the Axis-Cylinder and
of Nerve-Cells.*

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Preliminary Remarks.

The history of the nervous system has been made the object of numerous researches, of late years; but the greater part of the works have treated rather of the relative dispositions of the different nerve-elements in the centres, and of their different modes of termination, than of the intimate structure of the fundamental elements. Remak, however, since the discovery of the axis-cylinder, had already pointed out the longitudinal striation of this element, a striation which he believed to exist at the periphery. The use of re-agents acting upon the nerve-elements, either in an especial manner or by preserving them in a state of integrity more or less perfect, has permitted the unveiling of a structure peculiar to the fundamental elements of the nervous system.

M. Shultze,* by making use of iodo-serum, of the cephalo-rachidian liquid, of the bichromate of potassa in solution in water (from $\frac{1}{2}$ to 1 per cent.), of chromic acid (from 1-40 to 1-20 per cent.), of hyperosmic acid (from $\frac{1}{2}$ to 1 per cent.), has succeeded in demonstrating that a great number of very fine fibrillæ are found in the interior of the nerve-cells of the electric lobes of the torpedo, of the spinal cord and of the cortical substance of the cerebrum and cerebellum. The fibrillæ spread themselves without regular order in the interior of the cells, but this author has not been able to discover their mode of termination in the nerve-cell. He has always seen them losing themselves in the granular substance, but never in the nucleus. The fibrillæ are very fine; some of them, however, attain the size of 0.0005^{mm}.

The prolongations of the cells are thus seen formed by fibrillæ separated from each other by interposed granular matter. It is possible, especially in the prolongations of the cells, to isolate the fibrillæ by maceration in the solution of bichromate of potassa. According to M. Shultze, the axis-cylinder should have the same composition as the prolongation, and the longitudinal striation already determined by Remak would appear not only in the periphery but throughout the entire thickness of the axis-cylinder. M. Schultze concludes the axis-cylinder and the nerve-cells can not be considered as the ultimate elements of the nervous system, but that these elements are themselves formed from more minute elements, primitive nerve-fibrillæ connected together by an intermediate granular substance.

Other authors had already indicated the existence of fibrillæ in nerve-cells, Arnold and Courvoisier, especially, in the ganglion-cells of the sympathetic nerve of the frog.

Fromman,† by the use of very slightly diluted albumen, discovered fibrillæ in the interior of the nerve-cells of the anterior cornua of the spinal cord of the ox; but according

* Discours Académique, Bonn., Aout, 1868.

† Virchow's Archiv., t. XXXI.

to this author, contrary to the opinion of Max Schultze, the fibrillæ should have intimate connections with the nuclei and the nucleoli. The same author, using nitrate of silver as a medium of impregnations, arrived at the following results: "In the greater number of cases the axis-cylinder, whatever may be its volume, presents a transverse striation; sometimes a longitudinal striation is recognized. The nerve-cells, treated in the same manner, are exhibited with a black nucleolus, a colorless nucleus, and the body of the cell colored; upon the prolongations, by the use of albumen, the longitudinal striæ already referred to may be discovered."

The results which I shall exhibit correspond perfectly with those of Fromman, as to the axis-cylinder, but I arrive at very different conclusions as to the re-actions presented by the nerve-cells. This difference of opinion being probably occasioned by the different methods employed, I shall describe in detail the manner in which I proceeded in my investigations. Fromman, moreover, in his work does not specify exactly in every point his mode of procedure.

MEDIA OF STUDY.

My investigations have been made upon the ganglion of Gasser and the spinal cord, the cerebrum and the cerebellum of the ox, the great sympathetic and sciatic nerve of the frog. M. Legros, who has repeated my investigations, in the laboratory of the Faculty of Medicine, Paris, arrived at the same results as I, experimenting upon the same organs in the rabbit.

The organs have invariably been removed as soon as possible after death (on the average half an hour after), so that they were still living, or that at least they might be supposed not to have undergone any sensible cadaveric alteration.

This circumstance is indispensable; the same results cannot be attained with the spinal cords of animals dead more than six hours.

As soon as removed the organs were plunged into a solution of crystallized nitrate of silver of 1 to 400, after having previously been cut into fragments of 1 to $1\frac{1}{2}$ centimetres. This accomplished, I placed them in a receptacle excluded from the light, and at the ordinary temperature, during about five days; then I exposed them to the light during two or three days, leaving them in the silver solution in which they were macerating. This period of action of the re-agent and of light is in general sufficient, but the results appeared to be better if they were permitted to act a longer time; some of my most beautiful preparations have been obtained after fifteen days of the action of the nitrate of silver in darkness and about the same period of exposure to the light.

I should remark that these results were obtained by exposing the objects to a low temperature, but that in summer the decomposition of the elements occurs on the fourth day. The preparations obtained after fifteen days of maceration were very beautiful at first, but at the end of three or four months they were completely altered.

The silver solution which has succeeded best is that of one four-hundredth. More concentrated solutions gave less satisfactory results. Fromman employed a solution of one six-hundredth for the centres, and one three-hundredth for the peripheral nerves.

The quality of the light has great influence; it is much preferable to use very intense light; it gives much more beautiful results, after a relatively brief period of action, than a feebler light acting for a longer time. In the sunlight sometimes less than half an hour is sufficient to render apparent the re-action in the axis-cylinders.

The action of light is perceptible only upon fragments; hence it follows that this portion only can be used for study; however, the rest is not lost, because the nitrate of silver acts to the depth of two or three millimetres, so that by making sections perpendicular to the surface, and exposing them to the light, a new series of preparations sufficient for the study of the axis-cylinder may be obtained.

In order to make the preparation, it is sufficient to remove a portion of the part which it is desired to examine, by the aid of scissors, or by scraping the surface with the back of a scalpel; the particles thus obtained should be placed upon the slide in a drop of glycerine, either pure or mingled with a little acetic acid, and distended as much as possible.

Instead of making soft preparations, alcohol may be used in order to harden them, and thin slices made and placed in Canada Balsam; the same result may be obtained thus as by proceeding in the manner previously described.

It is absolutely indispensable to follow exactly the process which I have just described in order to obtain, with any degree of certainty, the results detailed above. Failure in the re-actions has sometimes happened to me, but this was always due to the fact that I did not follow vigorously this mode of procedure.

THE AXIS-CYLINDER.

The axis-cylinder should be studied under two conditions: 1st. When it is free, not included in the interior of a fibre, and consequently in immediate contact with the re-agent; 2d. Included in the interior of a fibre, and enveloped by the cell-less sheathe and the cord. I shall commence by studying it in the free state.

The organ most suitable for this investigation is the spinal cord, although it may be as readily made in the ganglion of Gasser, but this latter is better adapted to its investigation in the complete fibre.

The organ having been prepared as I have already described, it will be seen immediately, even when slightly magnified, that the principal and characteristic re-action of the axis-cylinder, whatever may be its volume, is a very marked and very regular transversal striation, similar to that of striated muscles. Throughout its entire extent the cylinder presents portions alternately clear and dark, as if the re-agent had attacked one portion of the substance and spared the other.

It will, likewise, at once be seen that the opaque striæ are found in a definite portion, at regular distances, but that these distances as well as the thickness of the striæ themselves vary in different portions.

The thickness of the striæ varies from 0.001^{mm} to 0.005^{mm} ; that of the spaces which separate them from 0.001^{mm} to 0.003^{mm} approximately.*

Considered separately, each of the striæ is seen in the form of a line more or less thick, uniformly colored in the finest, more or less granular and less clearly defined in the larger. This last fact is not constant, for frequently the large striæ are found perfectly homogeneous. If, while observing, the focus of the objective be varied, it will be seen, and this is more readily observed in striæ of medium size, that the stripe which had the appearance of a line uniformly colored, becomes clearer at its centre, and is sharply defined by a deeply colored contour which presents a rectangular form with rounded outlines.

The matter interposed between the striæ is ordinarily lightly colored, but much less so than the striæ; sometimes it is altogether colorless; this depends upon the more or less prolonged action of the re-agent and of the light. It is more abundant between the large than between the fine stripes, but it happens, however, that the large stripes are very closely approximated to each other.

The stripes, whatever their thickness, bear the same relation to each other; they have all the same dimensions in a certain extent and are regularly spaced. As to their direction, they are all placed perpendicularly to the axis of the cylinder, when that is rectilinear; when it is curved, if the curve is slight, the curves radiate from the centre, without changing their form; but in the case of a sharp curve, they change their form, and from rectangular they become triangular, the summits of the triangles being directed to the centre of the curvature.

*The spaces between the striæ of the muscles are from 0.0002^{mm} to 0.002^{mm} .

The stripes vary in thickness. It might be supposed that the finest would be found in the smallest axis-cylinders and *vice versa*. It is not so, however. No relation exists between the thickness of the stripes and the volume of the cylinder, for the finest stripes are sometimes found in the largest cylinders.

If a cylinder be examined over a great extent, it will be seen that while the stripes have the same thickness, this, likewise, is variable. In this latter case we may find an insensible transition; but most frequently it is abrupt, and then there is found between the two kinds of stripes a deeply colored space, larger than the largest stripes.

There are frequently found upon the same cylinder several of these deeply colored spaces which separate groups of stripes either of the same or of different thickness. All that I have just described is very manifest in cylinders well stained, but it frequently happens that the action of the reagent is too strong or too feeble. In case the action be too strong, the stripes are sometimes seen indistinctly, but ordinarily the entire cylinder presents a uniform deep brown color. When the re-action has been too feeble the stripes are granular, punctuated; but it frequently happens that stripes are found clearly marked from space to space. Sometimes the only effect obtained consists in the presence of blackish granulations, disseminated irregularly upon the cylinder.

Such are the characteristics presented by the axis-cylinder when placed, still living, in a solution of nitrate of silver, and subsequently exposed to the action of light.

Besides the transverse, Fromman speaks of longitudinal stripes, but he does not designate the conditions under which these were recognized. I, also, have detected them, but in cords which had been plunged into nitrate of silver, not at the ordinary temperature, but had been, in the meantime, submitted to a temperature below zero. These longitudinal stripes, although quite plainly visible, are much less marked than the transverse.

I have likewise detected the transverse stripes by my process, though rarely. I have even seen, at times, the axis-cylinder, and especially the prolongations of the cells, presenting the two orders of stripes simultaneously, so that the entire surface presented a well-marked check.

The preceding remarks apply to the axis-cylinder completely isolated. Let us now see how it will behave in the interior of a complete fibre, when it is placed under the same conditions.

If an isolated cylinder be traced into the interior of a fibre, it will be seen that the stripes exist, not only upon the denuded part but likewise upon that which is enveloped by the acellular sheathe and the cord, and that, over a certain extent they are marked, as well marked then as upon the outside of the fibre; if the cylinder be traced farther the stripes will soon be seen to become less marked, dotted, and then to be no longer manifest. The action of the re-agent is only manifest near the points where the axis-cylinder becomes free, and diminishes in intensity in proportion as it (the axis-cylinder) penetrates into the interior of the fibre. .

This is due, probably, to the fact that the nitrate of silver has penetrated to a certain depth by gradual imbibition, and that this imbibition not being possible farther through the acellular sheathe and the cord, the re-agent can no longer act.

It has been already observed that all the stripes are parallel and separated from each other by a matter upon which the nitrate of silver acts feebly.

What is the effect of compression upon this condition? The compression may be vertical, either accompanied by lateral movements or not. Simple vertical compression has no effect upon the finest stripes; the largest expand as well as do the spaces which separate them. If pressure with lateral motion be brought to bear upon the stripes of medium size, well tinted, and especially upon cylinders not very voluminous, sometimes one and sometimes several

stripes will frequently be seen to deviate from the common direction. I have seen stripes displaced singly, without change of form, and assume positions relatively oblique to the others, and even to be placed perpendicular to them, that is, in the direction of the axis-cylinder, just as if this latter were formed of resistant discs separated by a softer substance, some of which might be pressed down obliquely or longitudinally. By the same means it happens, frequently that nearly all the stripes may deviate irregularly from their normal position, in every direction, these varieties of position preserving no relation to the curvature of the cylinder.

The partial rupture of the cylinders may also be effected; and then it will be seen that this occurs in the intervals between the stripes, these latter remaining perfectly intact.

Whatever may be the degree of compression employed, it is very difficult to destroy the stripes, even when they are granular. The effect of the pressure is manifested upon the interposed matter which is much less resistant than the stripes.

Besides the displacement of the stripes, their complete isolation may be effected. In order to accomplish this, I used preparations which had remained a considerable time in glycerine, and applied to the object strong pressure with lateral movements. To reach the same end, it is as well to use fragments of organs macerated several weeks in the silver solution after exposure to the action of light, and to proceed as above in making the preparation with glycerine. By proceeding thus, the stripes may be isolated with facility, and will be seen to present the same characteristics as when they are re-united; generally it is difficult to free them completely from the interposed matter of which a very small quantity remains adherent.

From the facts thus set forth it may be concluded:

1st. That nitrate of silver has a special action upon certain portions of the axis-cylinder, and affect certain others but feebly.

2d. The axis-cylinder is composed of two substances differing by their chemical and physical properties.

3d. These two substances are not mingled, but completely isolated, and present an arrangement regular by relation to each other.

4th. The axis-cylinder is formed of superposed discs separated from each other by a substance which has not the same properties as the discs themselves.

5th. The axis-cylinder contained within the interior of a complete fibre, offers absolutely the same characteristics as the isolated cylinder, in so far as the re-agent can act upon the cylinder itself.

In the examining the axis-cylinder striped transversely, the resemblance which it presents to striated muscular fibre is striking. The characteristics common to muscles and nerves are now much more clearly defined, since M. Schultze has isolated the longitudinal fibrillæ. And here is presented the same discussion as in reference to muscles, that is to say whether the discs or the fibrillæ constitute the ultimate element of the axis-cylinder. I should remark, however, that the axis-cylinder does not behave as do muscles under polarized light. New researches ought still to be established in order to determine rigorously the fundamental element of the axis-cylinder.

NERVE-CELLS AND THEIR PROLONGATIONS.

Before commencing the exposition of my investigations of nerve-cells, I deem it useful to recall, in a few words, the preparation to which the object must be submitted, because it is especially in this particular that my results disagree with those of Fromman, which disagreement I attribute to the difference in the conditions in which we were placed.

The organs were taken as *much alive* as possible, plunged for a certain time into a solution of nitrate of silver, then exposed to the light; upon nerve-cells it is important to permit light to act for a long time, because its action upon them is much weaker than upon the axis-cylinders.

The organ upon which the best results are obtained is the spinal cord (cervical region), and it should also be stated that the observations which follow were made principally upon the cells of the anterior cornua.

Fromman, acting with nitrate of silver upon congealed cords, found the bodies of the cells uniformly colored brown, the nucleus remaining colorless; the prolongations presenting longitudinal, but not transverse stripes.

If the organ be prepared as I have indicated, it will be perceived that, as in the case of the axis-cylinder, the action of the nitrate of silver occasions a very decided striation of the body of the cell and of its prolongations; parts are seen alternately clear and dark.

The striæ vary in thickness from 0.001 mm. to 0.005 mm.

The finest stripes are seen to be completely homogeneous, of a brown color; the largest are generally dotted, granular, as though formed of blackish granulations aggregated together. Between the striæ is found a substance less tinted, sometimes altogether colorless. A cell may present only striæ of the same thickness, but frequently upon the same cell, as upon the axis cylinder, are found striæ of variable thickness. The cells present, likewise, spaces deeply colored, larger than the ordinary striæ, and are thus divided into two or three segments with stripes of the same or different thickness. As to the direction of the stripes no rule can be given. They are all parallel; the nucleus has no influence upon them; they pass above it.

The cells are not always attacked by the re-agent over their whole surface; then, in this case, the cell is seen transversed, so to speak, cut into two by a colored plane which terminates at the surface by a stripe.

By placing myself under the conditions indicated by Fromman I have, as has this author, seen the body of the cell colored uniformly brown, and the nucleus remaining intact; at the same time I have recognized the longitudinal stripes upon the prolongations, but my observations did

not permit me to decide upon their mode of termination in the interior of the cell.

The prolongation of the cells present a transverse striation, in all respects similar to that of the axis-cylinder; as to the thickness of the stripes, it corresponds to that of the stripes of the segment of the cell from which they originate. This is seen in the entire cells, and especially in the prolongations which, torn off, have dragged with them parts of the cell.

If a prolongation be curved around the cell, the striation is not perceptible, but if such movements be imparted to the preparation as to render it rectilinear, immediately the stripes are exhibited very clearly defined. The prolongation becoming re-curved the striation again disappears.

If the nerve cells be compressed, an enlargement of the large stripes is effected, the finer ones undergoing no change. Compression associated with lateral movements produces no isolation of the stripes as in the case of the axis-cylinder; the only effect which can be obtained is to render the stripes sinuous, although leaving them parallel; it should be observed, however, that the stripes can only be destroyed with great difficulty.

Besides the transverse striation the double striation can be detected in the nerve-cells as in the axis-cylinder; in this case I have observed no relation of the longitudinal stripes with the nucleus.

The nerve-cells in which I have clearly determined the striation are those of the ganglion of Gasser; of the anterior cornua of the spinal cord, and of the floor of the fourth ventricle.

From these facts it may be concluded, that

1st. Two substances differing by their properties exist in the body of the cell.

2d. These two substances appear to be chemically isolated.

3d. There is, perhaps, an arrangement in discs, as in the axis-cylinder; but the only fact in evidence is the existence, in certain cases, of a colored plane cutting the cell entirely.

4th. The axis-cylinder and the nerve-cells exhibit the same characteristics when they are submitted, under certain conditions, to the action of nitrate of silver

In consequence of the reactions produced by nitrate of silver upon the axis-cylinder and nerve-cells, we may hope to elucidate the questions of the connective tissue and of the nerve-substance in the posterior cornua of the spinal cord and elsewhere. The investigations which constitute the subject of this memoir were conducted in the laboratory of the Faculty of Médecine of Liege. I must here express my gratitude to Professor Schwann, for the kind feeling which he has manifested toward me in guiding me in my labors.

The work was presented to the Academy of Sciences of Belgium, and we subjoin the conclusions of Professor Schwann.*

"The work of M. Grandry concerns the most important elementary parts of the body. The discussions which they have originated will doubtless revolve around the question whether the striæ seen in the axis-cylinder and the nerve cells, after the use of nitrate of silver upon these organs, still alive, pre-exist before the re-agent, or whether they are artificial products.

"It appears to me difficult to admit that formations so regular, as the stripes in question, *could* be obtained artificially, if there was not already in the living organ a corresponding arrangement. It is not, however, necessary to admit the discontinuity of the discs. There is, perhaps, a homogeneous substance in which are deposited molecules of another sort susceptible to the action of nitrate of silver. These molecules would impregnate certain layers, hardening them, and would leave other layers free. W. H.

* *Bulletin de l'Académie des Sciences Belgique.* 37th année, 2d Série, XXV, p. 287.

SOCIETY REPORTS.

Chicago Medical Society.

FRIDAY EVENING, July 9, 1869.

Regular meeting Chicago Medical Society, President Bogue in the chair. The election of new members being in order, Drs. Wm. A. Barstow, H. Hooper, H. Hurd and Charles Bendike were unanimously elected.

Report of Committees: none being ready, the meeting then proceeded with the discussion: "Is Hydrophobia amenable to treatment?" Dr. Paoli opened by relating the interest it had, not only to people but to the profession itself. The disease, although it had been much observed, was still in obscurity, yet every effort was made to treat it conscientiously. The death of Mr. Goodwille, from hydrophobia, had been taken up by all the Chicago papers and highly colored modes of treatment were admitted by them. The *New York Medical Gazette* had reprinted the report from the Chicago papers and commented thereon freely, speaking of hydrophobia as incurable, etc., and the treatment adopted as inhuman. Dr. Paoli took great pains to examine into the case and found that it was partly right and wrong. The steam-bath was used in Goodwille's case up to 135 deg., but hot water had not been used. Mr. Goodwille, who was very fond of dogs, picked up the one that bit him, whom he suspected of being mad, but did not notice any effects until two months afterwards. It was not true that the patient was immersed by force. It was also untrue that there was any barking sound from his throat. He was rational the whole time, and when he felt a convulsion coming on he warned his family to keep away from him. It was necessary to learn of the dog's disease first. That hydrophobia is very rare was shown by statistics, there being only 25 deaths in 36,000,000 of people. It would be easy to study the case if all who were reported to have died of it were, really, the victims of that disease. If it was more recognizable in dogs there was little doubt of the suppression of the disease. The first symptom in the dog was its sullen and melancholy appearance, and its illusive biting at imaginary objects. In the dog there were similar symptoms to those exhibited in man. As the symptoms increased the dog appeared thirsty, but did not drink, only snapping at the water. He was in a paralytic state. In the human being there was no snapping, yet he was in a melancholy state before the symptoms commenced. The skin was very sensitive, and a slight draught would cause convulsions. In the dog there was precisely an opposite symptom. The man was rational, the dog was furious. The man died asphyxiated, the dog paralytic. It would be interesting to examine the subject and mention the various modes of treatment. It must be admitted there was no remedy, but there were preventives. The absorption of this

poison could be stopped. Constitution has something to do with taking the disease, and a great many that were bitten by dogs that were mad recovered. Amputation was recommended, but that was barbarous. He suggested the application of the hot iron. A Russian physician discovered, many years ago, under the tongue of a victim, a small vesicle, and said if this could be removed the patient would recover. This he doubted partially. The physician qualified his statement by saying if, before the 22d day, these vesicles could be removed there was no fear of fatal consequences. There had not been one remedy, external or internal, successful. Bleeding, mercury, arsenic, iron, gold, bromine, silver, and sulphur preparations had been tried, and all failed. The leaves of the Guaco of South America had proved unavailing. A French physician suggested cutting out the wound. If remedies could be immediately applied the patient could be saved. A turnquet had been used, but it only delayed death. Opium and chloroform had been employed. Beneficial effect can then only be expected when the public is made to know the symptoms of rabies in a dog.

Dr. Smith thought, though the question was the treatment of the disease, yet it was necessary to gain some knowledge of its origin. Many physicians, himself included, thought it was only a modified form of tetanus, and not a disease of special contagion. He had made inoculation from the saliva from the mouth of a mad dog, on seven dogs, a horse and a cow, and no results followed, as they invariably did in all cases of contagion, as small pox, syphilis, and others. He had seen a case of furious tetanus produced by an almost imperceptible wound by a pair of scissors falling on the patient's toe, the symptoms coming only on the seventh day. The man refused water and died with all the symptoms of what was called hydrophobia. He thought special observations should be made. He had lived in the city for fourteen years, and had been called to attend diseases similar to hydrophobia, and found them not that disease, and never had seen one case. Barking was a symptom which occurred in inflammation of the cerebellum. He recently attended an epileptic patient who barked like a dog. If that occurred in chorea, why not in any other form of inflammation of the cerebellum. He believed that a bite by a diseased dog might cause something more than tetanus, and did not like to be understood that hydrophobia was nothing more than tetanus, but that nothing special was attached to it, and, in his opinion, it was not a special disease. He had had an interesting case a year ago, in the family of a physician in the city, where a lady had been bitten by a dog. On inspection, the dog certainly evinced symptoms of hydrophobia, and died the next evening. He had found, in his post mortem examination, every symptom generally given by doctors. The lady, however, had exhibited no symptoms, and was now living and in general health. She was treated with bromide of potassium, and nothing resulted. He objected exceedingly to the poisoning of dogs on the streets, which demoralized the police and the children who saw them die; and was it safe to put in the hands of policemen, political appointees, means enough to poison two or three thousand people? The health of the city was injured by having dead dogs about it, and they

were at liberty to die anywhere, and frequently died in annoying places. He had seen malignant carbuncle spread by the flies and insects that preyed on these dead animals. If dogs must be killed, other ways and means might be employed, some of which he recommended.

Dr. Danforth said the idea of the vesicle was exploded. If one was there it had no connection with the disease.

Dr. Loverin said the disease had received its name from one of its symptoms, a fear of water. The dog, fox and wolf were capable of producing the disease, and it was popularly believed that they inoculated victims by their saliva. Hydrophobia had many symptoms in common with tetanus, but the fear of water was peculiar to itself. In tetanus we have no fear of water. A prophylactic measure immediately after the bite, was incision of the wound, but the question arose, how long after the bite would the excision be useful? Many eminent men believed that excision before suppuration took place was safe, and was to be recommended. After the symptoms were well represented no known method could restore the patient. He had never seen a case of hydrophobia, but believed there was such a disease.

The symptoms of madness in dogs had been described very well by the gentleman who first spoke. When a dog was rabid he had a musical howl.

Dr. Davis considered the symptoms purely nervous, resulting from direct irritation of the nerve and spinal centres, medulla oblongata, etc. Cases of hydrophobia are very rare, and literature is made up of illy-reported newspaper items, and very unreliable. A writer may talk about it and may never have seen a case. Medicines must be sedative, and no heroic treatment necessary, and he would never advocate remedies which would kill a well person. Similar causes we meet with of an irritating nature to the nerve-centres, controlling respiration, circulation, in meningitis, cerebrospinalis epidemica. No harsh means in the treatment should ever be employed. Belladonna and bromides, alternately, with full doses of soda sulphites. Permanganate of potassa to counteract animal poison may be given, as all cases prove fatal any how, but there was an error in trying every thing, and nothing effectual. The dog must be diagnosed to truly have the disease before incision is practiced, but where it results in mutilation no one would feel justified in attempting it.

On motion, society adjourned.

HIRAM WANZER, *Secretary.*

HOSPITAL REPORTS.

County Hospital Reports.

A few notes made at the surgical clinics during the present year, will convey an idea of the importance of the hospital as a school in operative surgery.

Jan. 5.—1. Hey's amputation of both feet. Case of *frost-bite*. Recovery with good serviceable stumps. 2. Amputation of all of the toes of both feet behind the heads of the metatarsal bones. Recovery with good stumps.

Jan. 12.—Case presenting the following history: Left foot frozen one year ago. Amputation through the base of the metatarsal bones. Flaps sloughed and never entirely cicatrized. On admission to the hospital a large ulcer existed upon the front of the stump, extending on one side back to the ankle. The whole stump was swollen, indurated, and in a condition which rendered impossible an attempt to save any portion of the foot. Amputation of the lower third of the leg was performed by the circular method. Recovery rapid, with a beautiful round stump. The bones of the whole tarsus were found in a state of incipient caries with exostosis and caries of the bone stump of the old operation.

Jan. 16.—Amputation of frost-bitten toes.

Jan. 25.—Lithotomy. Case of boy aged five years. Recovery.

Jan. 29.—Amputation of frost-bitten toes.

Feb. 2.—Periosteal abscess at mastoid process, punctured. 2. Circumscribed peritoneal abscess. Case chronic sinus, with opening a little below umbilicus leading downward.

Feb. 5.—Operation for chronic hydrocele. The scrotal sack laid widely open. Evacuation of half a pint of fluid. Cavity plugged with lint saturated with a solution of carbolic acid in linseed oil. Cured.

Feb. 9.—1. A rare affection of the mouth. Case of papillary tumor upon inner surface of cheek, apparently like macerated epithelium in an elevated patch of slow growth, gradually spreading, giving no inconvenience. Advice, to let it alone. 2. Dressing of fractures. Plaster-of-Paris splint applied. Case of compound fracture of tibia.

Feb. 11.—Perineal section. Case presenting the following history: Gonorrhœa five years ago, followed by stricture, which has been practiced upon three several times by gradual dilation. When admitted to hospital there was retention of urine. A small gum catheter was introduced, after giving chloroform; a stricture was found in the bulbous portion of the urethra, which was ruptured with a Holt's dilator. In the membranous portion there was a close stricture, admitting only a No. 4 steel sound. All of the urethra posterior to this was rough and disorganized. For a time dilation was tried, but at the end of about four weeks there had been no progress. The

urethra was opened freely through the perineum, and a No. 10 sound passed into the bladder. The wound healed very kindly. Advised to use the sound once in three or four weeks thereafter.

Feb. 19.—1. Amputation of toes of both feet. Case of frost-bite. Died of pyæmia, March 3d. 2. Amputation of leg. Case of compound Pott's fracture. Recovery.

Feb. 26.—Tenotomy about hip and knee. Case of inflammation of hip joint. Improved.

March 2.—Opening subfascial abscess of thigh.

March 5.—1. Amputation of middle finger. Case of traumatic gangrene. Six days ago a car wheel passed over the hand, fracturing and lacerating the index finger. In three days the little and ring fingers were gangrenous and subject to removal. A useful member preserved in remaining thumb and index. 2. Operation for removal of small subaceous tumor in supercilium.

March 9.—Paraceutesis of the scrotum. Case of hydrocele. Two cysts caused by adhesion between the sides of the sack.

March 11.—Perineal section. Case of stricture of the urethra with urinary fistulæ. Decomposed tissues and hæmorrhoids, making operation difficult. Cured.

March 12.—Amputation of leg. Case of caries of ankle joint following Pott's fracture.

March 16.—1. Injection of dilute compound tincture of iodine. Case of chronic hydrocele. Cured (March 9). 2. Amputation of great toe. Case of frost-bite. 3. Amputation of index finger. Case of crushed hand (March 5).

March 19.—1. Case of crushed foot, boy aged thirteen. Toes involved; tissues lacerated; bones fractured. Treatment, whisky and water—conservatives. Recovery. 2. Case of pistol-shot wound. Ball entered opposite crest of ilium, passed downward, backward, and inward. Search fruitless. 3. Case of injured knee, presenting the following history: Man aged thirty-five. Last June a car wheel struck his knee and opened the joint so that two fingers could be laid in it, patella two-thirds enucleated, bruised and ragged; a lacerated wound of the popliteal space as large as the hand. It was decided not to amputate. The patella was removed. Pus burroughed up the thigh. Swelling and pus finally disappeared. Cicatrized well; ankylosis by adhesion; position straight. Discharged from hospital at the expiration of eight months, cured. Returned the same day with rupture of the adhesions at the point of ankylosis, having met with an accident which flexed his leg upon the thigh. Leg placed at rest upon a pillow. Position, partial flexure. He will recover. 4. Removal of epulis from lower jaw.

March 26.—1. Dressing of fractures. 2. Operation for obliteration of varicose veins. Case of ulcer of the leg. Injection of solution of persulphate of iron. Cured.

March 30.—Pistol-shot wound of lumbar region. Bullet removed from a deep fluctuating abscess on side opposite wound of entrance. Large collection of pus (March 19). 2. Free openings in palm of hand to liberate burroughing pus. Case of amputated fingers, March 15 and 16).

April 2.—Burns. Three negroes burnt in jail. Treatment, carbon oil and lint.

April 6.—Railroad injury. Case of boy aged seven years. Fracture of right femur; lacerated wound of right leg; deep lacerated wound of sole of foot; compound comminuted fracture of left leg. Injury at noon. Given a teaspoonful of whisky and six drops of tincture of opium every hour. At three p. m., pale, collapsed features, sleeping. Chloroform administered; ready in four minutes; not profoundly anesthetized. Circular amputation of the left leg two inches above the knee. Died 11 p. m.

April 9.—1. Compound fracture of leg, complicated with delirium tremens. 2. Epithelial excrescence upon lower lip, fourteen years standing. Half inch lip. Base, one inch by five-eighths of an inch. Crumbling off occasionally. Excised.

April 16.—Death from chloroform. Case of caries of ankle joint preparing for amputation. Middle-aged man, anæmic. Chloroform administered with a folded towel in a judicious and skillful manner. One minute after the first inspiration a convulsive movement of the extremities occurred. A few seconds later the chloroform was removed and his head declined. After four or five convulsive inspirations at long intervals, he ceased to breathe. Face livid; pupils dilated; eyes and jaws open. The heart's action was maintained for forty minutes.

May 4.—Operation, trepanning tibia. Case of chronic abscess. Cavity filling with new bone.

May 11.—Case of torticollis, from contraction of old cicatrix of a burn along the base of the lower jaw. Primary operation, division of cicatrix to secure adhesion to the bone.

May 24.—Operation for removal of necrosed bone. Case of gun shot; fracture of femur.

June 4.—Lithotomy. Case of boy aged seven years. Died of peritonitis June 10.

June 8.—Plastic operation. Case of torticollis. Cicatrix removed. (May 11).

June 13.—Operation, removal of carcinoma of the neck. Case of a man aged fifty-nine. The tumor, seventeen years in growing, had reached the size of a cocoa nut, having its origin deep on the right side near the base of the skull. An operation of the greatest difficulty performed with but little use of the knife. First, the common carotid of the affected side was ligated; then a free incision vertically through the integument. The tumor was found to have involved all the structures at the side of the neck. The mass was enucleated as far as possible by lacerating tissues. Reaching the base of the growth, it was found so firmly attached to the base of the skull and transverse processes of the superior cervical vertebræ as to require all

the strength of the operator to wrest it away. The internal jugular was lacerated close to its exit from the fossa. The deluge of blood that followed ceased spontaneously. The patient reacted, but died at the expiration of the second day, with every symptom of compression of the brain. No autopsy.

June 25. Operation for hare-lip. Case admitted with pneumonia. Operation during convalescence. Cured. C. F.

Cook County Hospital.

BY C. FENN, M. D., CHICAGO.

There is no "season" at the County Hospital. The student or practitioner may witness at any time a large number of instructive cases in each of the departments. The attractions are continual, and varied each day by the additions upon the register. The visitor who returns after a few weeks' absence will find almost an entire change has taken place in the occupants of the wards. The crowded condition of the hospital often necessitates the discharge of convalescents before they are fairly able to go, in order to make room for other emergency cases. Some afterward return to the dispensary for a continuance of treatment.

The clinics are held only from the first of October to the first of July; but the same gentlemanly attendants are on duty, and the same diversity and interest attaches to their charge during the remaining months as before. Pathology, of course, presents the highest attraction here, because of facilities of comparison; but, aside from this, pre-eminence cannot be given to any department. All are amply furnished with material for illustration.

The service is divided among the Medical Board, consisting of four attending surgeons, four attending physicians, two consulting surgeons, two consulting physicians, one gynecologist, one ophthalmologist, and one pathologist. The attending physicians and surgeons are each on duty three months of the year. The other members of the Board have no intermission of this term of service.

The following is the organization of attending surgeons: Prof. E. Powell, Dr. R. G. Bogue, Dr. T. D. Fitch, Dr. Charles G. Smith.

Attending Physicians: Prof. J. P. Ross, Prof. Thomas Bevan, Prof. H. A. Johnson, Dr. H. M. Lyman.

Consulting Surgeons: Prof. J. W. Freer, Dr. J. R. Gore.

Consulting Physicians: Prof. W. H. Byford, Dr. R. C. Hamill.

Gynecologist: Dr. H. Webster Jones.

Ophthalmologist: Dr. J. S. Hildreth.

Pathologist: Dr. Henry M. Lyman.

The whole number of patients treated in the hospital, exclusive of the outside dispensary, during the six months ending June 30, 1869, was: Surgical, 173; medical, 312; gynecological, 106; ophthalmological, 41. Total, 632.

EDITORIAL NOTES.

Professional Perspicuity.

In an original communication in the July number of the *Medical Examiner*, upon the subject of tetanus occurs the following passage:

"L. B., a young man aged 22, was out hunting near Calumet; while in the act of loading his gun, or after it was loaded and capped, his dog, a fine, noble looking beast, sprang upon him; in passing his paws to the ground they struck the cock, and the contents were immediately lodged in the fore-arm and the other hand."

Such, it appears, was the source of a case of tetanus, which, the writer kindly informs us, in another place, "is an affection of the excito-motor nerves."

The very ambiguous phraseology of the above quotation suggests three queries, viz:

- 1st. What was the nature of those "contents?"
- 2d. Of what were they the "contents?"
- 3d. What would be the effect of "lodging them immediately in the forearm and the other hand?"

The most immediate effect appears to have been the decision "to give him the benefit (?) of *council*;" (he was not even allowed the "benefit of a doubt"), and the next was "amputation," of what the writer does not condescend to inform us further than to refer to it as "the operation, which is of no interest here to describe." The next consequence in order appears to have been "tetanus," during which "the opisthotonos which was *permanent* was at times increased by violent *clonic spasms* of the same muscles." Paradoxical!

To the administration of "three drops of croton oil" and a "fly blister laid on the whole course of the spinal column" succeeded that of "two grains of sulphate of morphia every hour." The consequence of which seems to have been

that "in the evening of the same day I found the symptoms very much increased in severity." For which result surely neither the patient nor the medicine should be blamed.

Subsequently to this the patient was subjected to the influence of the Calabar bean, which, after repeated administrations, both by the mouth and sub-cutaneously, was continued in the latter form at intervals of "two hours" in doses "of half a grain of sulphate of morphia," and this "after the tetanic spasms had subsided."

Upon the development of "poisonous symptoms" the use of the bean was discontinued, and upon their subsidence, "I ordered two grains of morphia by the mouth every three hours." "From that time forward he seemed to get better, but I still continued the use of the bean in one-third grain doses, for two weeks."

The above is a brief review of one of the most remarkable cases in its origin, treatment and results which we have ever had the good fortune to encounter. It is greatly to be regretted that the author did not permit an inspection of the case by some physicians of the city, or at least given the name and residence of his fearfully afflicted patient in order that the *facts* of a case so remarkable might be generally understood in the professional community.

In the interests of science we hope that the three queries prefixed will be definitely answered.

Earth Closets.

We have been favored by Sanitary Superintendent Ranch with an examination of a model of this new and exceedingly important invention, which he desires to introduce into general use in this city. In no city in the country, except, perhaps, New Orleans, does the subject of the disposition of the excrementitious matter demand more attention than in Chicago; having been rejected by the system as worthless and hurtful. The primary object to be kept in

view, in the consideration of the subject, would seem to be to prevent their return into the animal economy from which they had been ejected. To accomplish this object it is necessary to protect against contamination the air which we breathe and the water which we drink, both of which are continually contaminated, more or less directly, by every mode yet devised for the disposition of human excreta. A secondary, though still vitally important object to be considered is the useful or profitable disposition of these matters, that they may become, instead of a nuisance, a source of wealth, by returning food to the earth that we may draw therefrom increased supplies of food for man.

If this invention will perform what it promises, we believe it will greatly facilitate, if it does not secure the accomplishment of all these objects. It is certainly worth examination by every physician and householder.

Craig Microscope.

Can any body tell us what has become of the individual who advertised the Craig Microscope? We have a letter from one of our subscribers, who somewhat anxiously wishes to know his whereabouts. A publication of our correspondent's letter may be needed. Can the microscope man see it?

Fluid Extracts

Our thanks are due Messrs Chapman & Dunks (see advertisement) for very excellent samples of Fluid Extracts, aconite, cimicifuga, ergot, hyoscyamus and veratrum viride. The efficient qualities of each are preserved with a degree of perfection we have not known surpassed.

BOOKS RECEIVED.

A TREATISE ON THE DISEASES OF THE EYE. By J. SOELBERG WELLS Professor of Ophthalmology in King's College, London; Ophthalmic Surgeon to King's College Hospital; and Assistant Surgeon to the Royal Ophthalmic Hospital, Moorfields. First American edition, with additions. Illustrated with two hundred and sixteen engravings on wood, and six colored plates; together with selections from the test types of Prof. E. Jaeger and Dr. H. Snellen. Philadelphia: Henry C. Lea, 1869. Cloth, \$6.50. Leather, \$7.50. W. B. Keen & Cooke, Chicago.

The zeal, industry and success of the ophthalmologists are very great, and prove conclusively the advantage to science of devotion to specialties. While, however, we advance this belief, let it be understood that we are, also, firm in our convictions that years of cultivation of the science of medicine as a whole are necessary as the ground-work of any specialty. Specialism thus founded we commend; specialism which springs immediately from a single root is a sickly plant, and should be rooted out completely. Men who have cultivated and practiced the science of medicine as a whole, and whose tastes lead them into special fields are deserving of all confidence; but the little men who have hatched from a *special* egg are not worthy to be entrusted with any interests whatsoever.

In a work now before us we find ophthalmological science brought down to the standard of the present; and we can but notice that in doing this our author expunges as well as adds. For instance, the old operation of reclinacation or couching is disposed of in half a page, and is introduced by the following sentence: "I mention this operation to state that, in my opinion, it should be completely abandoned." This is stronger language than Stellwag uses, who says, when speaking of the percentage of bad results: "Hence, at present, depression is almost abandoned."

The section upon astigmatism is comprehensive and clear; it is also very finely illustrated, as is, also, the whole work. The whole of chapter XIII on the anomalies of refraction and accommodations of the eye is, to us, the most satisfactory exposition we have yet had.

The same may be said of the chapter devoted to diseases of the lachrymal apparatus.

In section 12 of chapter 1 there is illustrated an ingenious plastic procedure for the cure of simblepharon. This difficulty has, in some of its forms been a stumbling block to surgeons, and if the conjunction admits of such plastic operations as are here described and illustrated, this unfortunate impediment is overcome.

In short, we heartily commend the book to our brethren; not only those who devote themselves to ophthalmology, but to all; for all should know more about the eye than, we regret to say, too many do.

A MANUAL OF ELEMENTARY CHEMISTRY, THEORETICAL AND PRACTICAL. By GEORGE FOWNES, Ph. D. From the Tenth revised

and enlarged English edition. With one hundred and ninety-seven illustrations. Edited by ROBERT BRIDGES, M.D., Professor of Chemistry in the Philadelphia College of Pharmacy. In one large and handsome royal 12mo. volume of about 850 closely printed pages: extra cloth, \$2.75; leather, \$3.25. Philadelphia: Henry C. Lea. Chicago: W. B. Keen & Cooke.

Some years having elapsed since the appearance of the last American edition, and several revisions having been made of the work in England during the interval, it will be found very greatly altered, and enlarged by about one hundred and fifty pages, containing nearly one-half more matter than before. The editors, Mr. Watts and Dr. Bence Jones, have labored sedulously to render it worthy, in all respects, of the very remarkable favor which it has thus far enjoyed, by incorporating in it all the most recent investigations and discoveries, in so far as is compatible with its design as an elementary text-book. While its distinguishing characteristics have been preserved, various portions have been re-written, and especial pains have been taken with the department of Organic chemistry, in which late researches have accumulated so many new facts, and have enabled the subject to be systematized and rendered intelligible in a manner formerly impossible. As only a few months have elapsed since the work thus passed through the hands of the English editors, but little has remained to be done by the American editor. Such additions as seemed advisable have, however, been made, and especial care has been taken to secure, by the closest scrutiny, the accuracy so essential in a work of this nature.

The amount of matter condensed into this small volume is almost wonderful. It is pre-eminently the text-book for the student and practitioner, and will, of course, achieve a large success and wide popularity.

HOW TO READ CHARACTER: A New Illustrated Hand-Book of Phrenology and Physiognomy, for the use of Students and Examiners; with a Descriptive Chart for marking, and upwards of 170 Engravings. Price, post-paid, in muslin, \$1.25; in paper, \$1. S. R. Wells, Publisher, 389 Broadway, New York. W. B. Keen & Cooke.

A TREATISE ON THE FUNCTION OF DIGESTION: Its Disorders and their Treatment. By F. W. PAVY, M.D., F. R. S., etc., etc. From the Second London Edition. Pp. 246. Philadelphia; Henry C. Lea. 1869. \$3.00. Chicago: W. B. Keen & Cooke.

The author sustains in this brief *resumé* his high reputation. His monograph is a model of condensation, yet a perspicuous view of a most important subject. It is aphoristic, yet eminently practical—a worthy companion to Chamber's excellent treatise.

PAMPHLETS.

BRAITHWAITE'S RETROSPECT OF PRACTICAL MEDICINE AND SURGERY. Part LIX, July, 1869. New York: W. A. TOWNSEND & ADAMS Publishers. \$2.50 a year in advance, postage prepaid. Half-yearly parts, \$1.50.

PROCEEDINGS OF THE STATE MEDICAL SOCIETY OF MICHIGAN FOR 1867 AND 1868.

MONTHLY REPORT OF THE DEPARTMENT OF AGRICULTURE for May and June, 1869.

GEORGIA MEDICAL ASSOCIATION. Proceedings and Transactions at the Sessions of 1868 and 1869, with Constitution and By-Laws.

UNANIMOUS REPORT OF SELECT COMMITTEE ON REPRESENTATIVE REFORM. Presented to the Senate of the United States, March 2, 1869, by Hon. B. F. WADE, Senator from Ohio. Reprinted and electrotyped by the Minority Representation Society, Chicago, Ill.

Copies of this valuable paper can be obtained by addressing the Secretary of the Society, Sidney Myers, Esq., Chicago. It would be out of place here to express our earnest hope that the important subject of which it treats may be thoroughly studied by the Medical Profession, who should be first and foremost in every grand reform.

PRESCRIPTION AND CLINIC RECORD. By EDOUARD SEGUIN, M.D. Published by W. Wood, 61 Walker Street, New York. Fifth edition, Price 50 cts.

A convenient pocket arrangement whereby duplicates of prescriptions may be readily kept, as also brief notes of each case. An introductory chapter affords some valuable hints.

TREATMENT OF LACHRYMAL AFFECTIONS. By PROF. ARLT, of the University of Vienna. Translated by JOHN F. WEIGHTMAN, M.D. Philadelphia. Lindsay & Blakiston, 1869. Pp. 30. With Plates. A very useful monograph.

STRUCTURAL LESIONS OF THE SKIN: Their Pathology and Treatment, Illustrated. By HOWARD DAMON, A.M., M.D., Fellow of the Mass. Med. Soc., etc., etc. Philadelphia, J. B. Lippincott & Co. 1869. W. B. Keen & Cooke, Chicago.

ANNUAL ANNOUNCEMENTS, Bellevue Hospital Medical College, 1869-70; Med. Dept. University of Buffalo; Chicago Medical College; Missouri Medical College.

SECOND ANNUAL REPORT OF THE BRAINARD FREE DISPENSARY OF THE CITY OF CHICAGO

DEMANDS OF THE HOUR UPON THE MEDICAL STUDENT. Valedictory Address, by L. M. WHITING, M.D., Charity Hospital Med. College, Cleveland, Ohio.

THE RELATIONS AND RECIPROCAL OBLIGATIONS BETWEEN THE MEDICAL PROFESSION AND THE EDUCATED AND CULTIVATED CLASSES. By HENRY S. HEWITT, M.D. Being an Oration before the Alumni Association of the Medical Department of the University of New York.

CHICAGO

WHOLESALE PRICE-CURRENT

Of Drugs, Medicines, Chemicals, Etc.

CORRECTED BY

E. P. DWYER & Co.

Acid, Acetic, by carboy.....per lb.	\$0 80	Balsam Peru.....per lb.	5 50
Less than carboy.....	25	Tolu.....	1 40
Benzoic.....per oz.	40	Sulphur.....	50
Carbolic, cryst.....per lb.	1 75	Barbadoes, Tar True.....	20
do solution.....	60	Barley, Pearl, by keg.....	9
Citric, by keg, 112 lbs.....	1 12	Less than keg.....	10
Less than keg.....	1 20	Bayberry Bark.....	15
Fluoric.....	3 00	Powdered.....	20
Gallie, bottle included.....per oz.	35	Bay Rum, pure, imported.....per gal.	6 25
Muriatic, by carboy.....per lb.	6	Commercial.....	4 00
Less than carboy.....	8	Bismuth, Subnitrate, P. & W.....per lb.	7 50
Nitric, 41 per cent., by carboy.....	18	Bisulphuret Carbon.....	45
Less than carboy.....	20	Blue Pill, P. & W.....	85
Nitric 38 per cent. by carboy.....	16	English.....	1 00
Less than carboy.....	20	Blue Vitriol, by bbl.....	15
Oxalic.....	36	Less than bbl.....	16
Sulphuric, by carboy.....	4 1/4	Borax, refined, by bbl.....	33
Less than carboy.....	7	Less than bbl.....	36
Tartaric, powdered, P. & W. by 50 lb. case.....	80	Powdered.....	45
Less than case.....	85	Brimstone, by bbl.....	4 3/4
Alces, Cape.....	25	Less than bbl.....	5 1/2
Cape, powdered.....	36	Bromine, vial included.....per oz.	55
Barbadoes.....	60	Buchu Leaves, long.....per lb.	60
Socotrine.....	1 05	Short.....	40
Ammonia, Carbonate.....	1 20	Burgundy Pitch, True.....	16
Muriate, by bbl.....	25	American.....	12
Less than bbl.....	20	Calabar, Beans.....per oz.	75
Aqua, 4 F.....	12	Calamus Root.....per lb.	25
do do by carboy.....	10	Bleached, No. 1.....	60
do 3 F.....	10	do No. 2.....	40
do do by carboy.....	8	Calomel, P. & W., bulk.....	1 05
Bromide.....	2 75	P. & W., bottles.....	1 10
do.....per oz.	25	English (genuine).....	1 50
Antimony, powdered, black, pure, by 100 lb case.....per lb.	6 1/4	Camphor Gum, refined.....	95
Less than case.....	8	Canary Seed, by bag.....	10
Aniseed, Italian.....	26	Less than bag.....	11
Star.....	55	Cantharides.....	2 00
Arnica Flowers.....	28	Powdered.....	2 15
Arrow Root, American.....	15	Capsicum, African, powdered.....	42
Barnuda.....	55	Caraway Seed.....	24
St. Vincent.....	25	Cardamon Seed, Madras.....	4 00
Taylor's in foll, by 12 lb. case.....	50	Malabar.....	4 50
Less than case.....	55	Cassia, in Mats.....	80
Arsenic, by keg.....	6	Buds.....	1 15
Less than keg.....	10	Caustic Soda, best brands.....	8 1/4
Balsam Copaiva, pure.....	1 10	Celery Seed.....	70
Flr.....	55	Cerate Cantharides.....	1 15
Flr.....per gal.	4 00	Chalk, White, by bbl.....	2 3/4
		Less than bbl.....	4
		Crayons.....per box	35
		Red Fingers.....per lb.	8
		Prep. Drops.....	9
		Precip. English.....	25

Chamomile Flowers, Roman, new.....per lb.	50	White.....per lb.	65
Chamomile Flowers, German.....	40	Gelatine, Cooper's, by 12 lb. boxes.....	90
Chinodine, P. & W., oz. rolls.....per oz.	20	Less than 12 lb. box.....	95
Chloride of Lime, hycask.....per lb.	5	Gentian Root.....	20
Less than cask.....	7	Powdered.....	25
Chloroform, P. & W.....	1 45	Ginger Root, Jamaica, bleached Jamaica, blouched, pow- dered.....	35
Squabb's.....	3 00	E. I., powdered, pure.....	40
Citrine Ointment, P. & W.....	50	E. I., Root.....	22
Civet.....per oz.	8 00	Glauber Salts, by bbl.....	2 1/2
Cloves.....per lb.	44	Less than bbl.....	3 1/2
Powdered.....	60	Glue, A., Extract, Cooper's, White.....	55
Cobalt, powdered.....	35	B. & A., White.....	50
Cochineal, Hond, genuine.....	1 35	No. 1 Extra Cooper's, White.....	48
L. S.....	1 25	No. 1 Sheet.....	25
Cocoa, butter.....	1 00	No. 2 Sheet.....	22
Colchicum Root, English.....	25	Common.....	18 @ 21
Seed.....	25	Glycerine, Rowers.....	80
Colocynth Apple.....	1 85	Heavy, Inodorons.....	45
Powdered.....	70	Price's English.....	1 10
Columbo Root, American.....	75	P. & W., No. 1, concen- trated.....	45
Foreign.....	25	P. & W. No. 2, concen- trated.....	35
Powdered.....	35	Proctor & Gamble's.....	50
Composition Powder, 2 oz. packages.....	45	Vicna, 1 lb. bottles.....	45
Concentrated Lye (old style iron case).....per case	8 25	Gum Arabic, 1st select.....	95
New style paper box.....	6 50	2d select.....	70
Confession Rose.....per lb.	55	3d select.....	60
Senna.....	55	Prime, sorts.....	50
Copperas, by bbl.....	2 1/2	Asafoetida, fair.....	45
Less than bbl.....	3 1/2	Select.....	70
Coriander Seed.....	16	Benzoin.....	1 00
Corrosive Sublimate.....	95	Cat-chu, true.....	16
Crab Orchard Salts.....	40	Gamboge.....	1 50
Cream Tartar, perf-ctly pure, powdered, Grocer's.....	30 @ 40	Powdered.....	1 60
Cubeba, berries.....	38	Guaiac.....	55
Powdered.....	40	Powdered.....	65
Cudbear, No. 1.....	42	Euphorbium.....	30
No. 2.....	25	do powdered.....	45
Cumin Seed.....	18	Kino.....	90
Cuttle-Fish Bone.....	35	Mastic.....	4 50
Dragon's Bl-od, in Mass.....	1 00	Myrrh, Turkey.....	60
Drug Mills, Swift's, Ea.....	15 00	do powdered.....	70
Dover's Powders, P. & W.....	3 20	Sanderach.....	65
Elm Bark, select.....	15	Shellac, Campbell's.....	55
Powdered.....	20	Good Native Orange.....	45
Ground.....	18	Bleached.....	85
Emery Grains, all Nos.....	12	Tragacanth, White Flake, No. 1.....	1 75
Flour, by keg.....	8	No. 2.....	1 50
Less than keg.....	10	Sorts.....	45
Epsom Salts, by bbl.....	43 1/2	Hemp Seed, by bbl.....	8
Less than bbl.....	51 1/2	Less than bbl.....	7
Ergot.....	1 35	Hoffman's Anodyne, P. & W.....	60
Powdered.....	1 50	Insect Powder.....	1 25
Ether Sulphuric.....	70	Iodine Resublimed, 1 lb. bot- tles.....	6 75
Washed.....	75	1 oz. vials.....per oz.	48
Concentrated.....	85	Ipecac, p-wdered, pure.....per lb.	3 75
Acetic.....	90	Iron, Carb. Precip., P. & W.....	25
Chloric.....	1 00	Hydrogen, P & W.....	2 75
Extract, Belladonna, English.....	4 05	Iodide Syrup.....	70
Cannabis Indica, English.....per oz.	1 50	Muriated Tincture.....	44
Conium, English.....per lb.	2 00	Pyrophosphate.....	1 50
Dandelion, English.....	1 90	Isinglass, Amer., (Norwood & Manning's).....	1 25
Hyosclamus, English.....	5 00	Per barrel.....	2 20
Fennel Seed.....	18	Jalap Root, powdered.....	5
Flax Seed.....	7	Juniper Berries, by bag.....	7
Ground, by bbl.....	7 1/2	Less than bag.....	1 25
Less than bbl.....	16	Kresote.....	25
Foenugreek Seed, powdered.....	16	Lemon Peel.....	25
Gambier, or Erra Japonica, by bale.....	7 1/2		
Less than bale.....	10		
Gelatine, Cox's.....per doz.	2 50		
Pink, French.....per lb.	1 60		

Laurel Leaves.....per lb.	12½	Fennel.....per lb.	8 00
Liquorice Extract, Calabria, gen., P. & S.....	45	Hemlock.....per lb.	50
Liquorice Extract, Calabria, gen., Bairoco.....	45	Juniper.....per lb.	1 40
Root, select.....	16	Juniper Berries.....per oz.	4 75
Powdered.....	20	Lemon, Opt. Sanderson's.....per lb.	4 75
Sicily.....	24	do Grass Winters.....per oz.	55
Lobelia Seed.....	60	Lavender, Garden, fine.....per lb.	1 75
Lunar Caustic, Cones Squibb's.....per oz.	2 20	Lavender, Opt. Chiris.....	4 25
Lupuline.....per lb.	1 00	Mace, expressed.....	3 00
Lycopodium.....	85	Mustard, essential.....per oz.	2 25
Mace.....	1 65	Myrrbane.....per lb.	2 75
Magnesia Carb. 2 oz. papers, Pattison's.....	38	Neroli, Chiris.....per oz.	4 75
4 oz. papers, Pattison's.....	37	Nutmegs.....	75
2 do Jennings's.....	48	Olive, Marseilles, quarts.....per doz.	6 75
4 do do.....	44	do do pints.....	4 00
Calcined.....	75	do Daccosini, quarts.....	6 00
do Jennings's 1 lb. bottles.....	1 45	do do pints.....	3 25
Manganese, black, Oxide.....	8	do Bordeaux, quarts.....	14 50
Manua, sorte.....	75	do do pints.....	8 00
Large Flake.....	2 40	Orange Bitter.....per lb.	7 00
Small Flake.....	1 75	Orange Flowers.....per lb.	5 50
Marble Dust.....per bbl.	3 50	Origanum, pure.....	1 40
Mercurial Ointment, P. & W., ½ mercury.....per lb.	70	do commercial.....	65
P. & W. ¼ mercury.....	55	Pachouly.....per oz.	5 00
Morphine, Sulph., P. & W., vials included.....per oz.	9 25	Pennyroyal.....per lb.	3 50
Moss, Iceland.....per lb.	15	Peppermint, pure.....	6 25
Irish, select, by bbl.....	10	Rhodium.....per oz.	85
do No. 1, by bbl.....	7	Rosmary.....	1 35
Mu-k, Chinese, oz. cans.....per oz.	1 00	Rose Geranium, Chiris.....	25
Tonquin, true, in grain.....	38 00	do Kisanlink, pure.....	10 25
do do in pod.....	16 00	do commercial.....	5 00
Mustard, Ground Coleman's, g. per lb. in cans, imitation.....	55	Sassafras.....per lb.	1 15
Taylor's in cans.....	75	Savin.....	1 75
do in foil, S. F.....	80	Spearment.....	6 00
do in foil, D. S. F.....	85	Tansy.....	5 50
Seed, white, English.....	19	Wintergreen, pure.....	4 75
do American.....	14	Wormseed.....	4 00
Seed, black, English.....	18	Wormwood.....	7 00
do American.....	12	Opium, Turkey.....	12 15
W lid's, 4 and 6 lb. cans.....	45	Pursey, powdered.....	17 00
Nitrate of Silver, pure.....per oz.	1 33	Orange Peel.....	14
Nutgalls, Aleppo.....per lb.	44	Ground.....	18
do do powdered.....	45	Orris Root, select.....	20
Nutmegs, No. 1.....per lb.	1 45	Powdered.....	25
Nux Vomica.....	38	Peruvian Bark, Red Quill, P. and W.....	1 75
Oil, Almond, sweet.....	95	Red Quill, powdered, P. & W.....	2 05
do bitter, essential.....per oz.	1 65	Peruvian Bark, Rubingosa, powdered.....	1 00
Amber, crude.....per lb.	1 60	Yellow Quill.....	30
do rectified.....	1 40	do do powdered.....	40
Anise.....	4 50	Pink Root.....	35
Bergamot, Sanderson's.....	7 50	Piperine.....per oz.	1 65
Cassia.....	4 00	Potassa Bromide.....per lb.	1 50
Caraway.....	3 00	Acetate.....	85
Citronelle.....	2 75	Carb. (Sal. Tartar).....	20
Cajuput.....	2 25	Potash, crude, in casks, No. 1.....	7¾
Citronelle, native.....	2 75	Potash, Chlorate, French.....	75
do Winter's.....	3 25	do English.....	55
Cloves.....	3 20	Prussiate.....	44
Cod Liver, Hegeman & Co's.....per doz.	7 50	Bichromate.....	24
Cod Liver, Rushton's.....	8 00	Potassium Iodide, Filzer's.....	5 25
Cod Liver, bulk, pure.....per gal.	2 35	A. and B.....	5 60
Copaiba.....per lb.	4 25	Cyanide, fused.....	80
Coriander.....per oz.	2 50	Plaster Paris, ordinary.....per bbl.	4 50
Croton, English.....per lb.	3 00	do do Dentists'.....	5 00
Cubebs, P. and W.....	4 50	Quinine, Sulph., P. and W.....per oz.	2 40
Cumia.....per oz.	65	Sulph. French.....	2 40
Ergot.....	30	Quicksilver.....per lb.	80
Erigeron.....per lb.	4 00	Red Precipitate.....	1 18
		Rhubarb Root, E. I., select.....	3 00
		Powdered, select.....	3 20
		English.....	2 65
		English, powdered.....	2 75
		Rice Flour, 1 lb. packages.....	15
		Rochelle Salts, P. and W.....	50

Roe Leaves, damaak.....	per lb.	2 75
Rosin, pale	"	4 @ 5
Sago, Pearl, by case.....	"	14
Less than case.....	"	15
Sarsaparilla, Honduras	"	58
Honduras, ground	"	63
Sassafras bark, by bbl.....	"	12½
Less than bbl	"	14
Saffron, American.....	"	2 75
Spanish	"	17 50
d.....	per oz.	1 20
Salacia	per oz.	55
Saltpetre, crude.....	per lb.	14
Hudson	"	12½
Pure Crystals (by 100 lb. keg).....	"	17
Pure Crystals (less than keg).....	"	19
Powdered.....	"	28
Santonine, P. and W.....	per oz.	28
Seidlitz Mixture, P. and W.....	per lb.	44
Seneka Root.....	"	66
Senna, Alexandria, sifted.....	"	55
do ordinary.....	"	45
E. I.....	"	30
Tinnevely	"	38
Snuff, Scotch	"	70
Macaboy, rose scented.....	"	75
Soap, Castile, Mott'd, genuine, by box	"	17
Castile, white, by box.....	"	26
Soda, Bicarb., Newcastle, by keg.....	"	6½
Less than keg.....	"	8
Sal, (by bbl., 500 lbs)	"	3¼
Less than bbl	"	4
Soda Ash, best brands, in c'ks	"	4
Spermaceti	"	58
Squills, Root	"	15
Strychina, Crystals, vials included, P. and W.....	per oz.	3 35
Powdered.....	"	3 10
Sugar Lead, white.....	per lb.	37
Milk, powdered.....	"	65
Sulphur, Flour, by bbl	"	6
Less than bbl	"	7
Sweet Spirits Nitro, 4 F.....	per lb.	42
do do 3 F.....	"	33
Sweet Quinine.....	per oz.	2 00
Tamarinds.....	per lb.	12
Tannin, bottle included	per oz.	35
Tapioca, Rio, bg bag.....	per lb.	13
Less than bag.....	"	16
Tar, Carolina, pure	per bbl.	6 50
Tincture Presses, ½ gall.....	each	10 50
do 1 do	"	15 00
Tonqua Bean	per lb.	80
Augostura	"	1 15
Uva Urai, French	"	15
Valerian Root, English.....	"	75
do German.....	"	83
Vanilla Beans, short.....	"	12 50
do long	"	14 50
Venice Turpentine.....	"	28
White Wax, pure	"	90
Zinc Sulphate	"	12

White Leads, French and American Zines, Tieman's Colors, Varnishes, Etc.

Alcohol, 98 per cent., by bbl.....	per gal.	\$2 40
Axle Grease, National.....	per doz.	1 50
Fraser's, in wood boxes	"	1 50
do in tin cans, small	"	2 50
do do med.....	"	4 25
do do large	"	6 75
Bidwells	"	1 50

Benzole, deodorized, by bbl.....	per gal.	16 @ 30
Black Drop, dry, American.....	per lb.	15
Dry, English.....	"	15
In oil, 1 lb. cans, English.....	"	20
Paint, Tieman's, in oil, 1 lb cans.....	"	12½
Blue, Ultramarine (H. B b'nd)	"	35
Ultramarine, in oil.....	"	35
Pruss., Tieman's, Paris, dry	"	80
do Paris, in oil.....	"	70
do Chinese, dry.....	"	85
do A, dry.....	"	70
do A, in oil.....	"	55
do Manh'n, dry.....	"	65
do Manh'n, in oil.....	"	50
do Knick'r, dry.....	"	52
do do in oil.....	"	40
Brown, Spanish, by bbl.....	"	2
Less than bbl.....	"	3
Gold leaf, XX, deep.....	per pack	9 75
do pale	"	9 00
Green, chrome, Tieman's, pure dry, No 1.....	per lb.	18
Tieman's, pure, in oil, No. 1	"	19
do Manhattan, dry.....	"	16
do Manhatt'n, in oil.....	"	17
do Knickerb'r, dry.....	"	14
do do in oil.....	"	15
Green, Paris, Tieman's, dry.....	"	30 @ 40
do do in oil.....	"	30 @ 50
do do ex. perma- nent, in oil.....	"	40
Hampden, dry	"	24
Hampden, in oil.....	"	25
Magnesia, Heineman & Steiner's, dry	"	25
H. & S.'s in oil.....	"	26
Marseilles, Wood's, in oil.....	"	28
Lamp Black, Eddy's, refined, by bbl.....	"	30
Less than bbl.....	"	32
1 oz. papers, per 100.....	"	1 00
Common, assorted.....	"	9
½ lb. papers.....	"	11
½ lb. papers.....	"	12
German town, assorted.....	"	15
do ¼'s	"	18
do ½'s	"	16
do 1's	"	13
Lead, White, Jewett's	per 100 lbs.	13 75
Atlantic	"	13 75
B. L. Fahnestock's	"	13 75
Fahnestock, Hazlett & Schwart's	"	13 75
Hall, Bradley & Co.'s	"	13 75
Collier & Co.'s, pure.....	"	13 00
Collier & Co.'s, str'tly pure	"	13 75
Garden City	"	11 50
Diamond	"	10 50
Lead, Sterling.....	"	8 00
Continental.....	"	11 50
Associated cans, 1 to 5 lbs.....	"	12 00
Dry, white.....	"	13 50
Red, American.....	"	12 50
English, 112 lb. kegs	"	13 00
Mineral Paint, Ohio, by bbl.....	per lb.	3¼
Less than bbl.....	"	3½
Winter's, by bbl.....	"	3¼
Less than bbl.....	"	4
Ochre, Oxford, Stone, in oil.....	"	17
Oil, Carbon, Alex. Schofield & Co., by bbl.....	per gall.	33
Castor, E. I., by case.....	"	3 15
do American, by bbl.....	"	3 00
Lard, extra, by bbl.....	"	1 45
do No. 1, do	"	1 30
do No. 2, do	"	1 12

Linseed raw, by bbl.....per gal.	1 03
Linseed, boiled, by bbl.....	1 08
Machinery, Eclipse, by bbl.....	45
do West Va. do	60
Nearfoot, by bbl.....	1 20
Olive, bulk, pure Malaga.....	1 85
do do do Marseilles.....	4 00
do Union.....	1 45
Sperm, winter bleached, by bbl.....	2 40
Tanners' Bank, by bbl.....	1 06
Whale, winter bleach'd, by bbl.....	1 25
Petty, bulk, 100 lb tubs.....per lb.	4 1/2
In bladders, by bbl.....	4 1/2
Less than bbl.....	5 1/2
Red Indian, dry.....	16
In oil.....	22
Rose Pink, Tieman's.....	18
Sand Paper, Baeder & Adamson's, Flint.....per ream	5 50
National, Flint, assorted.....	4 50
Metropolitan, Flint, ass'd.....	3 75
Slenna, raw, dry.....per lb.	18
Tieman's, Manhat'n, in oil.....	7
Tieman's, Knickerbocker, in oil.....	16
Burnt, dry.....	7
Burnt, Tieman's, Manhat-tan, in oil.....	18
Burnt, Tieman's, Knickerbocker, in oil.....	16
Turpentine, Spirits, by bbl.....per gal.	50
Less than bbl.....	58
Umbel, raw, dry.....per lb.	7
Tieman's, Manhattan, in oil do Knickerb'r, in oil.....	17
Burnt, dry.....	15
Burnt, Tieman's, Mahattan, in oil.....	7
Burnt, Tieman's, Knickerbocker, in oil.....	17
Vandyke Brown, dry.....	15
Tieman's, in oil.....	12
Varnish, coach, No. 1, Turpentine (Smith's).....per gal.	22
Coach, ex, Turp., Tilden's No. 1, do do	3 00
Furn., No. 1, do do	4 00
Furn., No. 2, do do	2 75
Damar, Turpentine.....	2 25
Damar, Benzole.....	2 10
Japan, Benzole.....	2 65
Japan, Turpentine.....	2 40
Venetian Red, Tieman's, in oil.....per lb.	90
English, Cookson's, by bbl.....	1 20
English, less than bbl.....	12 1/2
American, by bbl.....	3 1/2
Less than bbl.....	2 1/2
Vermillion, Amer'n, Tieman's, dry.....	3 1/2
American, Tieman's, in oil do Handen.....	27
Tieman's Calif. rnia, pale, do do deep.....	29
Chinese.....	27
Trieste.....	1 25
English A. & B., pale.....	1 30
English A. & B., deep.....	1 25
Whiting, Spanish, by bbl.....	1 20
Less than bbl.....	23 1/2
White, Paris, by bbl.....	8 1/2
Less than bbl.....	4
Yellow Chrome, dry, Tieman's pure.....	5
Tieman's Manhattan, dry, do Knickerb'r, dry.....	28
	20
	14

Tieman's Pure, in oil.....per lb.	29
do Manhat'n, in oil.....	21
do Knickerb'n, in oil.....	15
Yellow Ochre, Am., by cask.....	2 1/4
Less than cask.....	3
Rochelle, by cask.....	3
Less than cask.....	3 1/4
Havre, by cask.....	23 1/2
Less than cask.....	3 1/4
French, in oil, as'd cans.....	12 1/2
Zinc, Veille, Montague, Red Seal, in oil.....	16 1/4
Veille, Montague, R. S., in oil.....	17 1/2
Zinc, white, in oil, New Jersey do do Penn. and Lehigh.....	10 50
	11 50

Window Glass.

WINDOW GLASS—all sizes—in good shipping order.

Size.	Discount, 50 per cent.	
	1st Qual.	2d Qual.
6x 8 to 8x10.....	\$ 6 50	\$5 50
8x11 to 10x15.....	7 00	6 00
8x16 to 12x18.....	8 00	7 00
10x20 to 16x24.....	8 50
10x26 to 20x28.....	10 50
20x30 to 24x30.....	12 00
24x31 to 24x36.....	13 00
25x36 to 30x44.....	15 00
30x46 to 32x46.....	16 00
Double thick, double price.		

Dye Stuffs. Dye Woods and Chemicals for Dyers and Woolen Manufacturers.

Acid, Picric, Cryst.....per lb.	\$ 3 50
Pyroligneous.....per gal.	25
Aniline, black.....per lb.	1 25
do.....per oz.	20
Blue, Farme.....per lb.	9 00
do do.....per oz.	75
do Violet.....per lb.	10 50
do do.....per oz.	1 00
do Hoffman's.....per lb.	15 00
do do.....per oz.	1 25
Brown.....per lb.	9 00
do.....per oz.	75
Green, for wool.....per lb.	30 00
do do.....per oz.	2 50
do for silk.....per lb.	45 00
do do.....per oz.	3 00
Orange.....per lb.	9 00
do.....per oz.	75
Purple.....per lb.	13 50
do.....per oz.	1 20
do Royal.....per lb.	15 00
do do.....per oz.	1 25
Red.....per lb.	8 00
do.....per oz.	60
Scarlet.....per lb.	8 00
do.....per oz.	75
Violet.....per lb.	10 50
do.....per oz.	1 00
Yellow.....per lb.	12 00
do.....per oz.	1 00
Aqua Fortis, carboy.....per lb.	16
do 1 ss.....	20
Barwood.....by bbl.	4 1/2
Brazil Wood.....	15
Cauwood, Commc'l.....	8
do pure.....	12
Ebony Wood.....	6
Fustic, Cuba.....	3 1/2
Hyperic.....	7 1/2

Lima Wood.....by bbl. per lb.	8	13.....	1 75
Logwood, 'Campeachy'	4	14.....	1 00
Nicwood....." ".....	4	15.....	2 20
Peachwood....." ".....	6	16.....	2 45
Quercitron....." ".....	3 1/2	17.....	2 75
Red Sanders....." ".....	5 1/2	18.....	2 90
Sapan Wood....." ".....	10		
Tumeric....." ".....	15		

Sundries.

Alum, by bbl.....per lb.	\$ 4 1/2
Annatto, best Para.....	1 65
do Eng. Roll.....	85
Argols, refined, powdered.....	26
Black Lead, E. I., powdered.....	15
German, powdered.....	12
Bleaching powder, by cask.....	5
Candles, Paraffine, 4's and 6's.....	36
Sperm, 4's and 6's.....	56
Patent Wax, 4's and 6's.....	68
Carmine, No. 40.....per oz.	1 30
China Clay.....per lb.	3 1/2
Cutch, " Pegue.....	16
Fluine.....	1 00
Fuller's Earth.....	5
Gambli, or Japonica, bales.....	7 1/2
Indigo, Bengal, 1st quality.....	8 50
do 2nd do.....	3 00
Indigo, Guatemala.....	2 30
Macras, 1st quality.....	1 65
do 2nd do.....	1 55
Manilla 1st do.....	1 65
do 2nd do.....	1 55
Extract.....	65
Carmine.....	5 50
Irish Moss, by bbl.....	7
Iron Liquor, by gal.....	45
Lac Lye.....	60
Litharge.....	14
Logwood, Extract, 12 lb. boxes.....	17
Madder, Best Dutch, casks.....	21
do do by bbl.....	22
Notgalls, Aleppo.....	44
Orchill Paste.....	38
Pearl Ash, by bbl.....	15
Sal Acetosella.....	65
Ammonia.....	20
Tartar.....	20
Sumac, Sicily.....	8
Least Seal.....	10
Tartar, Cream of, pure, cryst.....	48
do do do powd.....	50
do Red, or Argols.....	28
Tin Bar.....	40
Muriate, cryst.....	48
do solution.....	24
Oxymuriate do.....	30
Per-chloride.....	75

Superfine (XX) Straight or Taper Corks.

No. 0.....	20
1.....	24
2.....	28
3.....	32
4.....	37
5.....	42
6.....	52
7.....	85
8.....	90
9.....	1 15
10.....	1 30
11.....	1 40
12.....	1 60

Fine (X) Straight or Taper Corks.

No. 0.....	10
1.....	12
2.....	15
3.....	18
4.....	20
5.....	25
6.....	30
7.....	30
8.....	35
9.....	50
10.....	70
11.....	80
12.....	90
13.....	1 05
14.....	1 25
15.....	1 35
16.....	1 50
17.....	1 65
18.....	1 75

Specie or Flat Corks.

1 inch.....	40
1 1/8.....	45
1 1/4.....	50
1 3/8.....	60
1 1/2.....	65
1 5/8.....	80
2.....	1 00
2 1/8.....	1 20
2 1/4.....	1 35
2 3/8.....	1 45
2 1/2.....	1 55
2 5/8.....	1 70
3.....	1 85
3 1/8.....	2 10
3 1/4.....	2 35
3 3/8.....	2 60
3 1/2.....	2 85
3 5/8.....	3 20
4.....	3 50
4 1/8.....	4 00
4 1/4.....	4 50

Short Taper (XX) Corks.

No. 2.....	20
3.....	25
4.....	30
5.....	35
6.....	45
7.....	60
8.....	70
9.....	90
10.....	1 00
11.....	1 15

Soda Corks.

No. 8-1 1/4 in. long.....	50
8-1 3/8.....	55
8-1 1/2.....	58
9-1 1/8.....	58
9-1 3/8.....	65
9-1 1/2.....	70
10-1 1/8.....	68
10-1 3/8.....	75
10-1 1/2.....	80